

REMARKS/ARGUMENTS

We thank the Examiner for carefully consideration given to this application.

Claims

Claims 1, 2 and 14 have been amended for clarification.

Claim 9 has been amended to the meaning of the abbreviation "ODBC".

New dependent claims 27-31 have been added.

The amendments to the claims are fully supported by the application as originally filed. Support for the amendments to claims 1 and 14 can be found, for example, on page 6, lines 20-23, page 7, lines 11-19, page 21, line 9-16, page 22, line 31-page 23, line 11, page 35, line 11-page 37, line 6, and Abstract. Support for the amendment to claim 2 can be found, for example, on page 13, lines 7-9 and page 35, line 11-page 37, line 6. Support for the amendment to claim 9 can be found, for example, on page 6, line 11. Support for new claims 27 and 29 can be found, for example, on page 13, lines 2-11. Support for new claims 28 and 30 can be found, for example, on page 18, lines 18-20 and page 22, line 31-page 23, line 11. Support for new claim 31 can be found, for example, on page 7, line 1-page 12, line 24. No new matter has been introduced by way of the amendments to the claims.

Specification

The description on page 3 has been amended to replace "the first database" in line 6 with --the first database server--, and replace "the first" in line 10 with --the first database server--. Support for the amendments to the description can be found, for example, on page 6, lines 20-23, page 7, lines 11-19, page 21, line 9-16, page 22, line 31-page 23, line 11, and page 35, line 11-page 37, line 6. No new matter has been introduced by way of the amendment.

Claims Rejection-35 USC 103

The Examiner rejected claims 1-26 under 35 U.S.C. 103(a) as being unpatentable in view of Feik (U.S. Patent No. 6,850,913).

Applicant respectfully requests reconsideration and withdrawal of the rejections for reasons as set out below.

The present application discloses EXCDS SQL server 60, Gateway SQL Server 62, and a router 102 configured as a firewall (page 5, lines 9-11). The EXCDS server 60 acts as data repository for Data Manager(s) DM (page 5, lines 17-18). The Gateway server 62 receives regular updates from the EXCDS server 60 (page 6, lines 25-26). The Gateway server 62 has Jobs for a task that transfers operational data from the EXCDS server to itself (page 21, lines 13-16). The system implements a one-way data transfer to transfer data between the EXCDS server 60 and the Gateway server 62, using the firewall router and the Gateway server 62 to make EXCDS data available to outside users without impacting EXCDS operation (page 6, lines 20-23).

The present application addresses the problem of system reliability required for an air traffic control system. In the EXCDS system, data are sent only one way, from the data manager to the EXCDS server 60 and then through the firewall to the Gateway server 62, via a stored procedure 122 in the Gateway server 62 (page 35, line 11-page 37, line 6). The Gateway server 62 initiates the data “pull” (page 13, line 8) from the EXCDS server 60. The one-way data transaction provides “reliability in the way of overall system fault tolerance. In the case of failure of any of the system components on the business system side, the air traffic control portion would continue to operate without significant degradation” (page 2, lines 20-23). In addition, “a failure of components on the air traffic control portion of the system would not degrade the business side nor would critical data be lost, a key business system requirement.” (page 2, lines 25-27).

Feik discloses a system having a PC 20, a firewall 52, a cluster 54 of Web servers and a single cluster 56 of web database servers (Figure 3 of Feik). The Feik system is a classical n-tiered Web design, and is different from the EXCDS system disclosed in the present application because the design constraints are different.

Col. 2, lines 7-49 and Figures 3-4 of Feik discuss the process by which a user requests certification data from their own PCs through a firewall and into a cluster obtaining data from a web database via a SQL query; the data then being returned to the user by the reverse of that path. It is also described how certification data is uploaded into the web server via the Intranet through an administration server. These processes clearly describe standard engineering solutions.

The PC 20 of Feik is a personal computer that initiates dynamic user's queries. Feik discloses the single cluster 56 of web database servers only, and the web servers respond to the dynamic user's queries from the PC 20. In the Feik system, the user requests data directly from the database via World Wide Web (WWW) through the dynamic queries.

The user of the PC 20 dials into the WWW and enters the Uniform Resource Locator (URL) of the organization, and then establishes an Internet connection between this PC 20 and the web servers (col. 10, line 65-col. 11, line 7). The web gateway 82 transmits the user inputs necessary for the database query to a web application server 88 (col. 12, line 11-12). In the Feik system, the dynamic queries are sent to the database servers because the data requested by the user cannot be known a priori and then the data requested is sent back to the user.

By contrast, according to the present invention, a second database server includes a secure stored procedure by which data is transferred one-way from a first database server to the second database server (claims 1 and 14). The data is not transferred in response to dynamic user's requests. According to claim 14, changes to the data are transferred one way to the second database server, using the stored procedure in the second database server. The PC 20 of Feik is not a second database server defined in claims 1 and 14. Feik does not disclose or suggest transferring the changes of the data using the stored procedure.

In the Feik system, the firewall 52 is located between the users (PC 20) and the HTTP servers 58. By contrast, according to the present invention, a firewall is provided between the first database server and the second database server (claims 1 and 14).

Feik does not address the problem of system reliability required for an air traffic control system. Feik discloses multiple servers to partition data thereby improving perceived user performance, not for reliability.

On page 3 of the Office Action, the Examiner has stated that it would have been obvious to one of ordinary skill in the art to utilize the system of Feik for display air traffic information such as a flight delay, flight arrival and departure, weather at the airports, etc.

Feik states in the paragraph of col. 1, lines 46-56:

-- Systems, such as management systems or product-process systems, are also certified, in addition to certifications for product quality and product safety (PSQ, Product Safety Quality). The standards ISO 9000 and ISO 9001 are particularly well-known in the area of quality management (TQM, Total Quality Management). These standards outline certain quality-assuring operating processes. In the area of air and space travel, processes for assuring flight safety are specified in the standard AS 9000. The standard HACCP, which includes guidelines for producing, storing, and transporting food items, relates to a completely different field. --

In the paragraph, Feik merely states that the processes such as ISO 9000 and ISO 9001 are particularly well-known in the area of TQM, and merely states that the process governing air and space travel are specified in the standard AS 9000. Given this clarification it is clear that it is not obvious to use the Feik system in the area of air traffic control systems. In fact the Feik system is designed for consumer access and not as an air traffic control system. Even if using the Feik system as the air traffic control system, it cannot solve the problem of system reliability required for the air traffic control system.

The dependent claims contain additional features not disclosed or suggested by Feik.

For example, according to claim 2, the first database server includes first tables for current data and second tables for logging changes to the current data, and the changes are transferred to the second database server using the stored procedure (via the one-way transfer). This database architecture allows the database to hold low volume but secure

transactions processed in pseudo real time such as are experienced in an air traffic control system. Feik fails to disclose or suggest the database architecture featured in claim 2.

With respect to claim 2, the Examiner has stated that Feik discloses updating information (logging changes to current data) (col. 2, lines 7-49 and Figures 3 and 4). The Examiner has stated that although Feik does not explicitly disclose tables, however, table inherently exists in any database system including Feik. However, Feik merely discloses on col. 2, lines 7-26 accessing information/resources and database. Feik merely discloses on col. 2, lines 27-49 data accessing through the Internet using the Feik system described above.

Claim 27 recites that the second table is populated by a trigger, and one or more than one row associated with the changes is inserted into the second table when the changes are made to the first table. Claim 29 contains features similar to those of claim 27. Feik fails to disclose or suggest these features.

Claim 28 recites that the stored procedure is run by a scheduled job by which the one way transfer of the data is implemented periodically. Claim 30 contains features similar to those of claim 28. Feik fails to disclose or suggest these features.

Claim 31 recites denormalizing tables in the database server. Feik fails to disclose or suggest the database structure defined by claim 31.

Hence it is respectfully submitted that claims 1-31 are patentable in view of the cited reference. Applicant respectfully requests reconsideration and withdrawal of the rejection.

In view of the above amendments and remarks, and having dealt with all of the matters raised by the Examiner, early reconsideration and allowance of the application is respectfully requested.


Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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